Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)
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IP-Enabled Services	)
	)
E911 Requirements for IP-Enabled Service Providers	)
	)
WC Docket No. 05-196	)

COMMENTS OF IPOSI

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IP-Enabled Services

E911 Requirements for IP-Enabled Service Providers WC Docket No. 05-196

To: Chief, Wireline Competition Bureau

COMMENTS OF IPOSI, INC.

iPosi, Inc.[1], submits these comments in response to the Bureau's *Public Notice'* request for comment in the Notice of Proposed Rulemaking (NPRM) on the order itself, and possible additional solutions including technical options and possible timelines for implementation, to ensure that providers of VoIP services that interconnect with the nation's PSTN provide ubiquitous and reliable E911 service.

INTRODUCTION

The Bureau's inquiry in this proceeding continues its involvement in locating those who place E911 calls to save lives in emergency situations. The Commission has demonstrated its leadership and foresight in its past rulings related to the location of wireless callers to 9-1-1. In its NPRM, the Commission asks commenters about its role in facilitating the adoption of a number of E911 solutions for VoIP. iPosi believes the Commission can play a role in encouraging innovation while not making specific technological choices which it has avoided as a matter of policy and practice. However, the Commission can encourage developers and providers of new technologies to meet with FCC OET offices to be fully tested for efficacy in enough standardized environments to give a representative sample which

[1] iPosi, Inc. is a Delaware-based corporation with an interest in the location techniques for VoIP devices. Mr. Dunn is a veteran of the PSAP community, having served 7 years in the Public Safety environment, followed by some five years of product realization, standards development, sales and marketing related to location-based services.

are outside the selective control of the technology vendor. The FCC can also stipulate different solutions for different applications (portable versus fixed or nomadic) and encourage greater market participation.

iPosi believes that the Commission avail itself of keeping all technological options open even after the date of this NPRM. Technological innovation by date certain is fraught with pitfalls (see, for instance, recent filings by Nextel and a number of 3 CMRS carriers requesting full or partial waivers of dates certain), and technologic improvements are not only likely but expected in the coming months and years. iPosi would encourage the Commission to have a "living" process to avoid this problem of enforcement, as seen in the CMRS environment. More time for new solutions and underlying inventive technologies that will appear will be of interest and need not hamper the effect of the Regulations. iPosi, therefore strongly encourages the Commission to remain open to new technologies, especially over the coming 12-18 months, while the VoIP device counts then reach a size that make it possible to install new methods to address automatic, high accuracy self determination for E911, CALEA, and other commercial service purposes.

DISCUSSION

I.ALLOWING THE MARKET TO DETERMINE BEST AND MOST APPLICABLE TECHNOLOGIES

Bringing the voice communication to broadband offers a more affordable and more relevant service for segments that previously viewed broadband as expensive and less relevant to their generally simpler communication needs. We agree with the FCC's conclusion and support their effort to make broadband services interchangeable with other modes of communication such as wireless and fixed POTS.

However, iPosi believes that even though the FCC has to ask for a date certain for future location technologies, as the experience in the wireless model has shown, it should exercise forbearance to ensure

the overall interest of the regulation is met and not stifle the competitive deployment of new technologies which could stretch the bounds of this regulation. The Commission should judge compliance based on standard administrative and enforcement principles of fairness and effectiveness. Commanding technological innovation by date certain is fraught with pitfalls (see, for instance, recent filings by Nextel and a number of tier 3 CMRS carriers requesting full or partial waivers of dates certain) and technologic improvements are not only likely but expected in the coming months and years. iPosi would encourage the Commission to conduct a "living" process to avoid this problem of compliance waivers, as seen in the CMRS environment. This would allow the competitive development of the solution types suggested by the Commission in the NPRM[2]. It would also allow for the percolation of new processes and technologies which will allow the automated proactive positioning of the VoIP clients, be they fixed, mobile or nomadic.

II. USE OF END USER LOCATION INFORMATION

A. Positioning Techniques

As much as we want to say that VoIP is the equivalent and/or forecasted replacement for circuit switched calls, there are parts of the VoIP environment which are comparable to the wireline network (commonly referred to as Fixed VoIP) but there are parts of the environment which parallel the CMRS environment and, therefore, beg equivalency to the CMRS rules for location technologies (Mobile and Nomadic forms of VoIP service).

In the existing wireline environment, the NENA standard for the migration of an ALI record (be it an add, change or delete) suggests that such record migrates take no longer than 1 day[3]. iPosi believes that this is appropriate for VoIP as well, and as such the Commission should establish a one day maximum be the standard for providing a location for a VoIP device which has initiated services or which

[2] In the Matters of IP-Enabled Services and E911 Requirements for IP-Enabled Service Providers WC Docket No. 04-36, WC Docket No. 05-196; Para. 57

has moved. Many of the automated solutions currently being proposed as well as those in development should be able to provide a location for the caller for the purposes of both routing and for use in display at the PSAP within this one-day window.

To connect VoIP to the CMRS issue, the Commission should establish the CMRS requirements for wireless handsets of 67% of calls with a location within 50m and 95% of calls within 150m. In this way, the Wi-Fi, WiMax, combination devices (CMRS/WiFi/WiMax) and pure CMRS devices can all work towards a common accuracy standard and presentation for location information. iPosi believes that this common standard would give every 911 connection, even when first plugged in, a usable routable location.

However, as is the case in CMRS, it must be understood that specific precision matching to the wireline environment may not be real time. As a point of reference, NENA's existing data standard for wireline networks sets 98% database accuracy as the "go-live" point for Wireline 9-1-1 services.[4] iPosi believes the Commission should establish a common standard for the provision of location, without error, at 95% for Wireline, VoIP and CMRS callers to 9-1-1. Therefore we strongly encourage the FCC to ensure the adoption of technical standards to support these variables, including 3D, vertical height or floor elevation, an area where the current CMRS rules are silent. A significant number of VoIP and CMRS customers live and work in high-rise buildings, therefore iPosi believes the commission should address location in the horizontal and vertical planes.

Any VoIP solutions must be highly adaptive having the ability to work in any foreseeable scenario of fixed, portable, nomadic form factors with sufficient uniformity that the PSAP community does not require different systems for each. Uniformity, cost and time should be given weight in deciding the efficacy of the position determination solutions and E911 information handling (IT) developments. iPosi believes that location certainty, precision and quality is a benefit if not essential to many PSAP

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[3] See http://www.nena.org/9-1-1TechStandards/Standards_PDF/NENA%2002-011%20Standard%20Approved%20110904.pdf

[4] http://www.nena.org/9-1-1TechStandards/Standards_PDF/NENA%2002-011%20Standard%20Approved%20110904.pdf, paragraph 6.7

operations, not just 911. An example of a service helped by precision location would be emergency notification systems which are used by many jurisdictions to send warnings to specific fixed telephones based upon the location of the emergency event and the location of the caller to be notified.

B. Service Fees

The Commission, in the NPRM, has stated their general agreement with a fee process that standardizes the fee for a class of service[5]. iPosi agrees with the Commission in this area, specifically addressing a fee with the degree to which devices are relocated or moved. In general, once CPE-based location technologies are introduced, fixed VoIP devices should not move and, therefore, will only need to be located at the time they are first utilized. However, the nomadic/mobile VoIP devices will need to be located on a frequent basis. iPosi believes that fees charged for the E9-1-1 services for fixed VoIP devices would, therefore, be lower than the E9-1-1 services for nomadic/mobile VoIP devices. Allowing an end user to update his or her Registered Location in a timely manner, including at least one option that requires use only of the CPE necessary to access the VoIP service will, by definition, have a higher cost than simply the location of a fixed VoIP device.

C. Privacy

Customers should not have to make an opt-in decision for location associated with make calls to 911 from their VoIP service. This does not, however, allow them to automatically use their location-aware VoIP device or location aware VoIP provider to access non-911 related services. As seen in the CMRS model, location has value outside of 911 (such as CALEA, notification systems, business-related opportunities, etc.).

However, we need to allow for a customer to opt-out of being located for non 9-1-1 services. This opt-out would not set aside paying a monthly fee but would entitle them to disconnect the locating feature, so that they control as consumers their privacy. We expect all but a very small percentage to adopt and maintain the service, but respect the consumer's right to control the equipment where they are

[5]Op. Cit., Para 52.

the only user and they have access to other communication devices to call 911. We want the VoIP provider to tell their customers they are getting GPS based services for both the 911 and commercial models.

So, iPosi supports a "privacy based" override. Any 911 equipment must be provided in a default opt-in configuration. Imposing the requirement that all devices have their location reported without such override could be against privacy interests. An example of a non-911 use of this feature would be supporting CALEA requirements where a lawful warrant enables restoration of the position determination function while the warrant is in effect.

D. Network Reliability

Existing agreed upon technical standards and FCC regulations for 911 speak to P.01 grade of service for fixed voice, 98% data accuracy for fixed data, delivery of all calls for CMRS with location data anywhere from 50m 67% of the time to 300m 95% of the time. iPosi believes the Commission should take this opportunity to support a quantified figure across all technologies. Examples would be mandating multiple trunks, 3 to 5 nines reliability measure or any other agreeable measure that could be consistently applied to all devices which would call 911.

E. Applicability

Carriers that fall under the FCC jurisdiction should not have to accept a competitive disadvantage for complying compared to those carriers not subject due to jurisdiction. While safety is paramount the carriers that do not offer a compliant service that fall outside jurisdictional control should be handled by other legally appropriate methods including possible treaty with other nations where such companies operate and serve US consumers.

F. FCC Role

The FCC should take a most active role in assuring all responsive technologies are tested for compliance to the aims of the E911. The FCC has in the past taken steps to ensure compliance to legislation calling for E911 in wireless which were contentious, not always optimal, but felt necessary.

We believe a better model is to convene industry, expert and FCC regulatory leaders to develop a best practice approach to assuring the public and commercial interests are sufficiently aligned before setting rules in the absence of such a convention. Using the new practices to "promise keep" will likely resolve problems before they are as widespread as we learned from the wireless E911 experience.

The FCC can play a role in encouraging innovation while not having to make specific technological choices which it has chosen to avoid as a matter of policy and practice. That said, it can encourage new technologies to meet with FCC OET offices to be fully tested for efficacy in standardized environments that are outside the control of the vendor. The FCC can also stipulate different solutions for different applications (portable versus fixed or nomadic) and encourage greater market participation.

G. Federalized Role of 911

iPosi believes the Commission should progress down the path of federal control of 911 for VoIP solutions. There are multiple current examples where the implementation of 911, for all services, is controlled locally. This means the potential of 6000 different implementations of 911 in the United States, making 911 much more expensive than it needs to be. A common technical and cost protocol at the federal level is inherently lower cost and more rapidly standardizes the process and gives the public safety the tools it needs rather than undergo diversions through local collection processes. This will hasten the deployment of the inherently national service 911 has become today and address rules regarding collection. This is distinctly different than CMRS and wireline which have local facilities controlled by local field management organizations, switching centers etc. VoIP is more concentrated at regional and national levels. The states need to address consistent position accuracy requirements and develop a meaningful and uniform position and information reporting standards as uniform as possible to avoid undue cost and time to deploy. Operating and technical requirements ought to be the least complex to manage a national requirement while giving the local authorities the best tools available to address emergency response.

H. WI-FI/WIMAX

iPosi believes the Commission should distinguish WiFi from WiMAX since the former is purely a short range (sub 50m talk path) technology. The Commission should also distinguish between public and private node WiFi access. The public interest is well served if WiFi Access Pointss could broadcast their location once they are capable of determining and verifying their exact position. Public nodes that are open to the public (regardless of charging for the service) should have their location known such that calls routed through these locations are routed accordingly. Private nodes should not be forced to connect or carry E911 calls and thus not be located, nor should there be a public expectation of such access since managing the access would make this equipment prohibitively expensive and have dubious value to E911 response in general.

CONCLUSION

iPosi is committed to the realization of proactive positioning of the VoIP client for the greater public benefit of accurate and timely location of a caller in distress. We stand prepared to answer any questions posed by the Commission.

Respectfully submitted,

IPOSI, INC.

By:

/s/_____

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